History of Weather Observations

Weather observations were originally taken in Bishop by several cooperative observers from November 1, 1883 through August 31, 1918. Outside of physical street addresses and the names of the observers, very little documentation exists on the type of weather equipment and the siting of it. In addition, several gaps exist in the records in between observers, sometimes over a period of several months. Given this as well as the desire to have a climate record that uses a continuous period of record, the earliest recorded weather observations in Bishop were not used in records in this report or in any datasets contained within it.

After years with no formal record of weather observations, the United States Army requested a Weather Bureau station be established in Bishop. The original station was located at a private residence at 525 Howard Street and commenced a record of observations starting on June 17, 1943. Equipment consisted of maximum and minimum thermometers and a psychrometer located 4 feet above the ground, an eight rain gauge and a barometer. Wind instruments were located 44 feet above the ground. The station was located at this location until March 28, 1944 when it moved two and half miles east to the Base Option Building (Figure 1) at Air Base Bishop (now Eastern Sierra Regional Airport). Observations then consisted of hourly aviation weather reports with additional 3 and 6 hourly data. A reduction in staffing forced the closure of the station on October 18, 1945. As a result, equipment was moved 3.1 miles west to the Ray residence which was located one and a half miles west of the post office. The Ray residence remained the official observing and climate location for Bishop through May 4, 1946.

Figure 1- Bishop weather station located at the Air Base Operations Building at the Bishop Airport on December 3, 1944. The numbers on the photo correspond to: 1. 12 foot combined wind support 2. Entrance to Weather Office 3. Instrument shelter and rain gauge 4. Ceiling light switch. Photo courtesy of NCEI.

On May 4, 1946 the station made another move to 150 Johnson Drive (Figure 2). This location was two miles east of the Ray residence and a half of a mile east of the Post Office. Observations remained at 150 Johnson Drive until March 9, 1947 when an office was re-established at the Base Option Building (Figures 3-5) at Air Base Bishop (later Bishop Airport). On June 18, 1947, pilot balloon observations were started. Four pilot balloon observations were taken each day. The Bishop Weather Bureau office conducted twenty four hour a day operations until January 15, 1949 when office hours were cut to 0700-2230 PST. The 0900Z pilot balloon observation was also eliminated on this date due to the change in office hours. In order to keep a continuous record of temperature and pressure, this data was collected by a thermograph and barograph. On October 25, 1950, hours were trimmed again at the Bishop office, with operations running from 0645 through 1945 PST. The 0300Z pilot balloon was also discontinued and double-theodolite observations commenced for the 2100Z pilot balloon observation. On January 6, 1954, a universal weighing rain gauge was installed at Bishop.

Figure 2 – The Bishop weather station at 150 Johnson Drive on May 20, 1946. The numbers in the photo represent the following: 1. 8” rain gauge 2. Instrument shelter 3. Wind Instruments 4. Building used for Office. Photo courtesy of NCEI.

Figure 3- The Bishop office at the Base Operations Building at the Bishop Air Base (later Bishop Airport) on March 10, 1947. The numbers in the photo correspond to:1. Instrument shelter 2. 8" rain gauge 3 and 4. wind instruments 5. Ceiling light switch 6. Area of building where the weather office was located at. Photo courtesy NCEI.

Figure 4 – The Bishop office on January 20, 1949 at the Bishop Airport. The numbers in the photo correspond to: 1. Office 2. Instrument Shelter 3. Pibal Windbreak. Photo courtesy NCEI.

Figure 5- The Bishop office on June 17, 1974. In the front of the photo a rain gauge and instrument shelter can be noted. Photo courtesy NCEI.

On May 22, 1979, the Bishop office made its final move at the Bishop Airport to the northwest side of the Airport Administration Building at 690 Airport Road. This was 360 feet to the west-southwest of the Base Operations Building. On May 1, 1995 as part of the National Weather Service Modernization and Restructuring, an Automated Surface Observing System or ASOS was commissioned at the Bishop Airport as the official equipment for taking weather observations and was located centerfield (Figures 6 and 7). At the time the ASOS at the Bishop Airport had been installed, the office only had a staff of one person and thus did not have a full twenty four weather watch despite being a First Order Climate Station. The ASOS installed would allow for twenty four hour a day weather observations to be reported here for the first time since the late 1940s. The Bishop office was spun down in late 1995 into early 1996 with responsibility for maintain the climate records for Bishop transferred to the National Weather Service Office in Las Vegas, Nevada. After the commissioning of ASOS, weighing rain gauge charts were changed by staff from the United States Forest Service until February 23, 1996 when manual weather equipment was removed. However, since ASOS is a fully automated system, a need for a back-up weather records exists in the event of any equipment or communications issues with the ASOS as well as to report snow measurements. The initial responsibilities were at a Fire Station located at the Bishop Airport from November 21, 1996 through August 25, 2005. Since then back-up observations have come from reliable spotters and automated precipitation rain gauges located in Bishop. Effective November 2009, a CoCoRaHS observer residing six tenths of a mile southeast of the center of Bishop, site CA-IN-1, has been used for back-up precipitation reports given their location close to that of the Eastern Sierra Regional Airport. As of November 2,

2015, this location was changed to a CoCoRaHS observer located 1.7 mile northwest of the center of Bishop, site CA-IN-4.

Figure 6 (top) and Figure 7 (bottom) showing the Eastern Sierra Regional Airport in the area where the Bishop ASOS is located at and a close-up of the ASOS. The ASOS is roughly near the center of the top photo.
Photos taken on June 30, 2011 by Chris Stachelski.

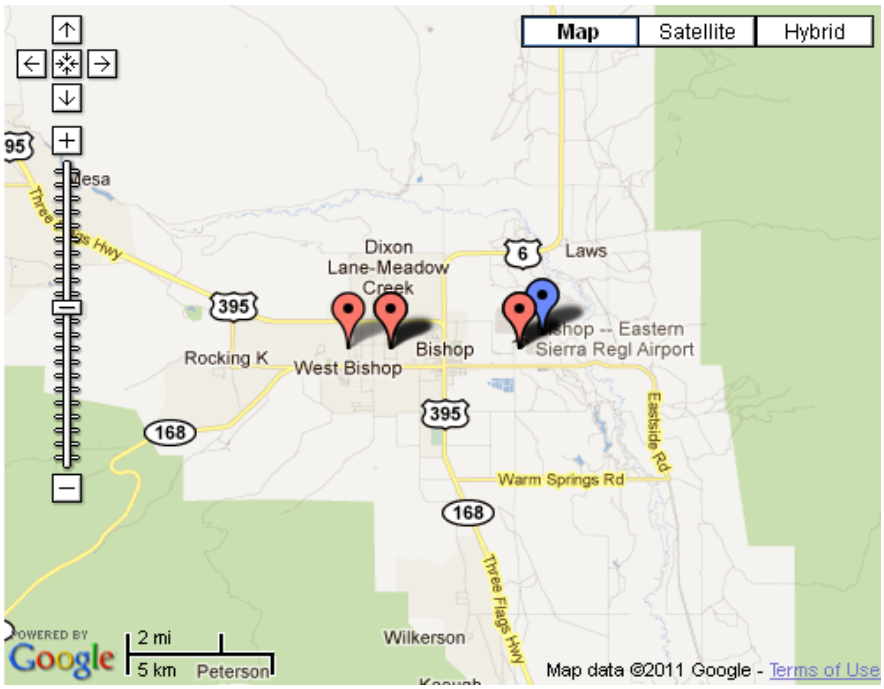

Figure 8 (top) – Map showing the location of the Bishop weather station. The far left red marking is the location of the Ray Residence while the red marking second from the left shows the location of 150 Johnson Drive. The two markers on the right show the location of the weather station at the Bishop Airport with the red marker the location of the Airport Administration Building and the blue circle the ASOS. Figure 9 (below) shows a close up of the weather station locations at the Eastern Sierra Regional Airport.